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two of water, consisting of 16 oxygen and 2 hydrogen; thus forming 46 nitrous acid, and 74 muriatic acid. But an acid so constituted should be incapable of acting on gold or platina; now the acid resulting from the absorption of chloro-nitrous gas by water has this power.

The author concludes from his experiments, that the power of nitro-muriatic acid in dissolving gold is not owing to the liberation of chlorine, and that muriatic acid may be separated from nitric acid, even when the latter is only half the volume of the former. He regards chlorine and chloro-nitrous gases as the gaseous products arising from the mutual action of strong nitric and muriatic acids on each other. The nitro-muriatic and chloro-nitrous acids strongly resemble each other in their action on platina, though the solvent power of the latter is decidedly greater than that of the former; and the addition of water considerably increases this power in both, probably by counteracting their disposition to assume the elastic state. Both acids form, with different bases, salts which are mixtures of nitrates and chlorides. The principal differences in these acids may arise from their mode of preparation, and is probably due to the want of uniformity in their composition.

February 24.

DAVIES GILBERT, Esq. V.P., in the Chair.

The Bishop of Chichester; John Lee, LL.D.; and Isaac Wilson, M.D.; were elected Fellows of the Society.

The following Presents were received, and thanks ordered for them:—

Memoir of the Life of Thomas Young, M.D. F.R.S.: with a Catalogue of his Works and Essays. 8vo.—*Presented by Mrs. Young.*

An Enquiry respecting the Site of the Battle of Mons Grampius. By Lieut.-Col. Miller, C.B. F.R.S. 4to.—*The Author.*

An Engraved Portrait of Charles Wilkins, Esq. LL.D. F.R.S. Engraved by J. Sartain from a painting by T. G. Middleton.—*William Marsden, Esq. F.R.S.*

Bulletin de la Société Géologique de France. Tome premier. 8vo.—*The Society.*

A Paper was read entitled, “On the Chemical Action of Atmospheric Electricity.” By Alexander Barry, Esq. F.L.S. Communicated by J. G. Children, Esq. Sec. R.S.

A kite was raised in an atmosphere which appeared favourable to the exhibition of electrical phenomena, from an apparatus firmly fixed in the earth, and insulated by a glass pillar. The string to which it was affixed contained a double gilt thread, and was let out to a length of five hundred yards. It was connected with a platina tube passing about half way down a glass tube full of a solution of

sulphate of soda, coloured with syrup of violets, and inverted in a cup containing the same liquid. A similar wire in another tube, also filled with the coloured solution, was placed in communication with the earth, and the fluids in each made to communicate by a bent glass tube passing from one cup to the other. The result of the experiment was, that hydrogen gas and alkali were developed in the first tube, and oxygen gas and acid in the latter.

The reading of a Paper, entitled, "An Account of Operations carried on for ascertaining the Difference of Level between the River Thames at London Bridge and the Sea: and also for determining the Height above the Level of the Sea, &c. of intermediate points passed over between Sheerness and London Bridge." By John Augustus Lloyd, Esq. F.R.S.;—was commenced.

March 3.

HIS ROYAL HIGHNESS THE DUKE OF SUSSEX,
President, in the Chair.

The Rev. Robert Walker, M.A. was elected a Fellow of the Society.

The following Presents were received, and thanks ordered for them :—

Illustrations of Indian Zoology. Part V. Folio.—*Presented by John E. Gray, Esq.*

Illustrations of Mr. Cooper's Surgical Dictionary. Parts IV., V., and VI. 8vo.—*W. P. Cocks, Esq.*

Notice of the Proceedings of the Geological Society. No. 18. 8vo.—*The Society.*

The Philosophical Magazine and Annals of Philosophy. No. 51. 8vo.—*The Editors.*

The Christian's Magazine, or Weekly Miscellany of Religious Essays, Anecdotes, Literature, Biography, Intelligence, and Poetry. No. 1. 8vo.—*The Editor.*

National Portrait Gallery. No. 23. 8vo.—*The Proprietors.*

A Vade Mecum of Morbid Anatomy, Medical and Chirurgical; with Pathological Observations and Symptoms. Illustrated by upwards of Two Hundred and Fifty Drawings. By W. Money. Second Edition. 8vo.—*The Author.*

The reading of Mr. Lloyd's Paper was resumed and concluded.

The author of this paper received directions from the Lords Commissioners of the Admiralty, in February 1830, at the suggestion of the Royal Society, to survey the river Thames, with a view of ascertaining the difference of level between certain parts of it and the mean level of the sea near Sheerness. Having had experience, while employed in a survey of the Isthmus of Darien, of the great